Claims:

1. A protective cap assembly for a sharps device, comprising:

a receiver for rigidly holding a sharps element of the sharps device;

a protective cap assembly attached to said receiver and completely encasing the sharps element in a closed position of the cap assembly;

said receiver being movably disposed in said protective cap assembly, for movement from the closed position to a functional position in which the sharps element projects from said protective cap assembly and the sharps device is in a functional condition, and from the functional position to the closed position in which the sharps element is completely retracted in said protective cap assembly.

2. The assembly according to claim 1, wherein said protective cap assembly includes a clip ring and a protective cap attached to said clip ring, and wherein said clip ring is configured to limit a movement of said receiver in one direction and said cap is configured to limit the movement of said receiver in another direction.

3. The assembly according to claim 2, wherein said receiver has a tab formed on a substantially cylindrical jacket surface thereof, and said protective cap assembly is formed with at least one groove in an inner jacket surface thereof, defining a track within which said tab slides from the locked position to the functional position.

4. The assembly according to claim 1, wherein the sharps device is a syringe and the sharps element is a hypodermic needle.

5. A needle cap assembly for a syringe having a distal end and a hypodermic needle projecting from the distal end, the needle cap assembly comprising:

a receiver rigidly mountable at the distal end and rigidly holding the hypodermic needle;

a protective cap mounted on said receiver and slidable relative to said receiver between a closed position in which the protective cap encases the hypodermic needle completely and a functional position in which the hypodermic needle projects out of said protective cap; and

mutually cooperating locking devices on said protective cap and on said receiver for locking said protective cap in the closed position.

6. The needle cap assembly according to claim 5, wherein said protective cap has a tip formed with an opening through which the needle projects in the functional position, and a membrane covering and substantially sealing said opening when the protective cap is in the closed position and the needle is completely retracted inside said cap.

7. The needle cap assembly according to claim 5, which comprises a clip ring connected with said protective cap, and wherein said clip ring is configured to limit a movement of said receiver in one direction and said protective cap is configured to limit the movement of said receiver in another direction.

8. The needle cap assembly according to claim 7, wherein said receiver has a tab formed on a substantially cylindrical jacket surface thereof, and said protective cap is formed with at least one groove in an inner jacket surface thereof, defining a track within which said tab slides from the locked position to the functional position.

9. A syringe assembly, comprising a syringe having a plunger and a barrel with a distal end, the needle cap assembly according to claim 5, a needle held in said receiver and mounted, together with said receiver and said needle cap assembly, to said distal end of said barrel.

10. The syringe assembly according to claim 9, wherein said distal end of said barrel is formed with a luer lock and said needle cap assembly and said needle together are formed to be mounted on said luer lock.